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G/030/62/002/012/001/006
D230/D308

STEP

AUTHORS:

(8)

Balarin, M. and Zetzsche, A.

TITLE:

(6)

Determination of the activation energy for the mobility of lattice defects due to uniform heating

PERIODICAL:

(15)

TRANS. FROM Physica status solidi, v. 2; no. 12, 1962, pp. 1670-1682

TEXT:

A new method, based on the kinetic equations for monomolecular reaction, is proposed for the evaluation of experimental annealing curves and, in particular, for the calculation of the activation energy required for the movement of lattice distortions. The accuracy attainable with this method is greater than with others and the procedure lends itself well to computer work. It is shown that only one annealing curve is required in order to determine the activation energy and the frequency factor. Taking the dispersion of the measured data, which in every real case is evaluated by the method of least squares, an estimate of the error is obtained. Numerical calculations are used in preference to graphical methods when a complete family of curves is available.

Card 1/2

Ld

Determination of the activation ...

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When a number of annealing processes overlap, their asymptotic behavior should be investigated individually. In certain circumstances the low-temperature process should be discontinued in favor of pre-annealing, in order to investigate fully the high-temperature method first. There are 5 figures and 8 tables.

ASSOCIATION:

Zentralinstitut für Kernphysik, Bereich Werkstoffe und Festkörper, Rossendorf bei Dresden (Central Institute for Nuclear Physics, Department of Materials and Solids, Rossendorf near Dresden)

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Card 2/2